

IOC/UNESCO Bulletin No. 10
As of 25 March 2011

Casualties by the Earthquake and Tsunami

As of 06:00z 25 Mar 2011

The National Police Agency

- Dead: 10,066
- Missing: 17,443
- Road destruction: 2,035
- Bridge destruction: 56
- Railway destruction: 36

Number of Evacuees at each Prefecture;

- Aomori: 367
- Iwate: 42,837
- Miyagi: 88,619; including from Fukushima
- Yamagata: 3,595; including from Miyagi and Fukushima
- Fukushima: 85,085
- Tokyo: 920; From Miyagi and Fukushima
- Ibaragi: 2,902; including from Fukushima
- Tochigi: 2,803; including from Fukushima
- Gunma: 3,137; including from Fukushima and Miyagi
- Saitama: 3,396; under survey
- Chiba: 1,414; including from Fukushima and Miyagi
- Kanagawa: 547; from Fukushima
- Niigata: 7,224; from Fukushima
- Yamanashi: 740; from Fukushima and Miyagi
- Nagano: 390; from Fukushima
- Shizuoka: 385; from Fukushima

As of 09:30Z 25 March 2011

The Japanese Fire and Disaster Management Agency (FDMA)

1. Dead: 9,470 persons
2. Missing: 13,147 persons
3. Injured: 3,117 persons
4. Fires: 323 events (321 fires were already extinguished)
5. Number of evacuees: 223,050

(Note: Numbers are based on the report from each Prefecture)

C: City, T: Town, V: Village

Local G: Information is taken from web of each municipality

Only municipalities located along Pacific coast are listed in the table.

Prefecture	City, Town, Village & Population	dead	missing	Note: Tsunami related disaster (Whole area / inundation area in km ²)
Hokkaido	Hakodate C 294,264	1		Local G <ul style="list-style-type: none"> One man dead by drowning 128 houses flooded 5 fishing boats; sinking Flood area; Benten, Suehiro, Toyokawa, Oote, Wakamatsu, Kaigan, Minato-Chou
Aomori	Hachinohe C 241,308	1	1	305 / 2 Tsunami height by PARI <ul style="list-style-type: none"> Hachinohe harbor: 5 – 6 m Near Hachinohe: 8 – 9 m (FDMA) <ul style="list-style-type: none"> Wide-area are inundated
	Misawa C 42,226	2		Local G <ul style="list-style-type: none"> 30 houses: flood Evacuation shelter was closed 15 March
	Hashikami T 14,627			94 / 0.5 Local G <ul style="list-style-type: none"> Some houses flow out
Iwate				<ul style="list-style-type: none"> JR Train stop: Tohoku-Akita shinkansen, Ofunato, Kitagami, Kamaishi, Yamada lines etc (Recovering; no prospect)
	Miyako C 59,118	327	1,400	1,260 / 9 (FDMA) <ul style="list-style-type: none"> Severe tsunami damages More than 10 villages are completely destroyed
	Ofunato C 40,801	245	191	323 / 6 Tsunami height by PARI <ul style="list-style-type: none"> Ofunato harbor: 9.5 m Near Ofunato harbor: 24 m (run-up) (FDMA) <ul style="list-style-type: none"> More than 300 houses flow out Many houses are flooded 3,498 houses are completely destroyed

				<ul style="list-style-type: none"> Especially Suesaki and Hosoura regions are severely damaged.
	Kuji C 36,651	2	2	623 / 4 Tsunami height by PARI <ul style="list-style-type: none"> Kuji harbor: 8 – 9 m Local G <ul style="list-style-type: none"> 573 houses are flooded 572 boats damaged
	Rikuzen-Takata C 23,243	875	1,587	232 / 9 (FDMA) <ul style="list-style-type: none"> Extremely severe damages Widely inundation 3,600 houses are damaged
	Kamaishi C 39,294	586	600	441 / 7 Tsunami height by PARI <ul style="list-style-type: none"> Kamaishi harbor: 7 – 9 m (FDMA) <ul style="list-style-type: none"> Coast-Guard building inundated up to 2nd floor Fire Office building is flooded
	Otsuchi T 15,293	481	1,048	201 / 4 Ogasawara; Iwate U. (14 Mar) <ul style="list-style-type: none"> Whole town is severely damaged
	Yamada T 18,745	405	Un-known	263 / 4
	Iwaizumi T 10,693	5	1	993 / 1 <ul style="list-style-type: none"> 40 houses are flooded
	Tanohata V 3,836	14	26	(FDMA) <ul style="list-style-type: none"> 249 houses flow out 148 houses are destroyed
	Fudai V 3,094		1	70 / 0.5 (FDMA) <ul style="list-style-type: none"> Ootanabe and Horiuchi fishing ports are severely damaged.
	Noda V 4,639	36	4	81 / 2 <ul style="list-style-type: none"> Tsunami flow over the village government building Severe damage in the central village 400 houses in the Motomura District are severely damaged
	Hirono T 17,961			303 / 1 Local G <ul style="list-style-type: none"> No dead 3 houses; flooded

				<ul style="list-style-type: none"> • 98 fishing boats: flow out or damaged • JR train bridge collapsed
Miyagi	Sendai C 1,046,902	225	Under survey	Tsunami height by PARI <ul style="list-style-type: none"> • Sendai-shinko: 8 m (FDMA) • 295 bodies are recovered (Not included in this table yet) • 296,323 houses: power cut as of 17 March
	Sendai-Miyagino			58 / 20
	Sendai - Wakabayashi			48 / 29
	Sendai- Taihaku			228 / 3
	Ishinomaki C 160,336	1,946	2,797	556 / 40 Tsunami height by PARI <ul style="list-style-type: none"> • Ishinomaki harbor: 5 m (FDMA) • Wide areas are inundated. Difficult for rescue work
	Shiogama C 56,325	32	6	18 / 5 Tsunami height by PARI <ul style="list-style-type: none"> • Shigama-kouku: 4 m
	Kesennuma C 73,239	520	Under survey	333 / 15 (FDMA) <ul style="list-style-type: none"> • Many people are isolated due to inundation of wide area
	Natori C 73,576	552	1,000	100 / 27 Tsunami height by PARI <ul style="list-style-type: none"> • Near Sendai airport: 12 m (FDMA) • Many areas are inundated
	Tagajo C 62,881	163	110	20 / 6
	Iwanuma C 43,921	130	Under survey	61 / 29
	Higashi-Matsushima C 42,859	692	429	102 / 36
	Watari T 34,773	200	200	73 / 35 Local G
	Yamamoto T 16,695	431	465	64 / 24 Local G <ul style="list-style-type: none"> • Evacuation Order is issued at 05:52 from local G.

				<ul style="list-style-type: none"> Major tsunami attacking around 06:30 Z
	Matsushima T 16,193	1	31	54 / 2
	Shichigahama T 20,377	48	29	13 / 6 Local G <ul style="list-style-type: none"> Tsunami height was more than 10 m All facilities along coast were completely destroyed
	Rifu T 9,768	1	0	45 / 0.5 <ul style="list-style-type: none"> Tsunami sediment in Hamada and Suga district is about 3 cm thicknesses.
	Onagawa T 9,965	245	732	Tsunami height by PARI <ul style="list-style-type: none"> Onagawa port: 15 m (FDMA) About 630 people need to be rescued Many areas are inundated
	Minami-Sanriku T 17,382	398	824	164 / 7 (FDMA) <ul style="list-style-type: none"> Many areas are inundated
Fukushima	Iwaki C 345,310	242	Under survey	Local G <ul style="list-style-type: none"> Tsunami severely damaged area; from Kunohama to Onahama district Some areas of above are completely destroyed
	Souma C 37,919	245		198 / 29 (FDMA) <ul style="list-style-type: none"> Severe tsunami damages
	Minami-Souma C 70,971	245	1,260	399 / 27
	Hirono T 5,383	2	1	
	Naraha T 7,847	3	10	
	Tomioka T 15,755	2	8	
	Okuma T 11,264	2	unkno wn	
	Futaba T 6,917	1	14	
	Namie T		230	

	20,686			
	Shinchi T 8,306	72	73	46 / 11
Ibaragi	Kita-Ibaragi C	5	1	<p>Tsunami height by Tsuji et al</p> <ul style="list-style-type: none"> Hirakata: 7.2m Otsuko: 4.6 m Isohara: 4.8m <p>Local G</p> <ul style="list-style-type: none"> Some houses; flooded
	Hitachi C	0	0	<p>Tsunami height by Tsuji et al</p> <ul style="list-style-type: none"> Kawashiri: 4.4m Hitachi: 4.2m <p>Local G</p> <ul style="list-style-type: none"> 35 houses: completely destroyed by tsunami, and 50 houses: partially destroyed, 556 houses; inundation Tsunami damages at Kawajiri, Aise, Kawarako and Kujihamas Ports.
	Tokai V	4		
	Hitachinaka C			<p>Tsunami height by Tsuji et al</p> <ul style="list-style-type: none"> Nakaminato: 3.3m
	Oarai T 18,188	1		<p>Tsunami height by Tsuji et al</p> <ul style="list-style-type: none"> Oarai: 4.5m <p>Local G</p> <ul style="list-style-type: none"> 06:00 Evacuation order About 2,000 houses; flooded
	Kashima C			<p>Tsunami height by Tsuji et al</p> <ul style="list-style-type: none"> Hasaki: 3.6m
	Kamisu C			<p>Tsunami height by Tsuji et al</p> <ul style="list-style-type: none"> Takeigama: 4.0m Kashimako: 5.7m <p>Local G</p> <ul style="list-style-type: none"> 5 houses flooded 2 vessels: capsized 1 vessel: stranding 12 boats: sinking 5 boats: stranding on shore
Chiba	Choshi C	0	0	<p>Tsunami height by Tsuji et al</p> <ul style="list-style-type: none"> Choshi: 3.0m Tokawa: 5.3m <p>Local G</p> <ul style="list-style-type: none"> 32 houses flooded

	Asahi C	12	3	<p>Tsunami height by Tsuji et al</p> <ul style="list-style-type: none"> • Iioka: 3.4m • Yasashigawa: 7.6m <p>Local G</p> <ul style="list-style-type: none"> • 112 houses flooded • 254 houses were completely destroyed by tsunami • 537 houses were partially destroyed by tsunami • 85 houses were completely destroyed by earthquake • 772 houses were partially destroyed by earthquake
	Sousa C			<p>Local G</p> <ul style="list-style-type: none"> • 18 houses flooded
	Yokoshiba-Hikari T			<p>Local G</p> <ul style="list-style-type: none"> • 14 houses flooded • Boats are damaged • Port facility is damaged
	Sanbu C	1		<p>Local G</p> <ul style="list-style-type: none"> • 243 houses flooded
	Kujyukuri T			<p>Tsunami height by Tsuji et al</p> <ul style="list-style-type: none"> • Katakai: 2.2m <p>Local G</p> <ul style="list-style-type: none"> • 161 houses flooded
	Oami-Shirasato T			<p>Local G</p> <ul style="list-style-type: none"> • No tsunami damage
	Shirako T			
	Chousei V			
	Ichinomiya C	0	0	<p>Local G</p> <ul style="list-style-type: none"> • 58 houses flooded; Kaigan and Omura District • Farm: 3 ha inundated
	Isumi C			<p>Tsunami height by Tsuji et al</p> <ul style="list-style-type: none"> • Taitou: 4.2m • Ohara: 2.8m • Iwafune: 2.9 – 4.3 m <p>Local G</p> <ul style="list-style-type: none"> • 19 houses flooded
	Onjyuku T			<p>Tsunami height by Tsuji et al</p> <ul style="list-style-type: none"> • Onjyuku: 2.5m
	Katsuura C			<p>Tsunami height by Tsuji et al</p> <ul style="list-style-type: none"> • Katsuura: 2.2 m
	Kamogawa C			Tsunami height by Tsuji et al

				<ul style="list-style-type: none"> • Kominato: 1.9 m • Amatsu: 2.0 m
	Minami-Bousou C			Tsunami height by Tsuji et al <ul style="list-style-type: none"> • Wada: 2.1 m • Nemoto: 2.6 m
	Tateyama C			Tsunami height by Tsuji et al <ul style="list-style-type: none"> • Mera: 2.0 m
	Chiba C			Local G <ul style="list-style-type: none"> • 2 houses flooded
Shizuoka	Shimoda C 25,549			Local G <ul style="list-style-type: none"> • 13 houses; flooded

Tohoku Regional Bureau provides the detail information

<http://www.thr.mlit.go.jp/>

Yuichi Nishimura san of Hokkaido U. has carried out tsunami site survey along Pacific coast of Hokkaido;

<http://www.sci.hokudai.ac.jp/isv/ev-news-flash/2011311-1.html>

Tsunami heights (max. at each site, without tide correction) are as follows;

- Hakodate, Oshima: 1.8 – 2.0 m
- Sumiyoshi port (south of Hakodate), Oshima: 2.0 m
- Mori, Oshima: 2.0 m
- Mukawa, Iburi: 2.6 – 2.9 m
- Shizunai (Shin-Hidaka), Hidaka: 1.7 m
- Urakawa, Hidaka: 3.4 m
- Samani, Hidaka: 3.7 m
- Fuyushima, Samani, Hidaka: 1.8 m
- Asahi, Samani, Hidaka: 3.5 m
- Fuemai, Urakawa, Hidaka: 4.1 m
- Erimo, Hidaka: 4.5 m
- Utabetsu, Urakawa, Hidaka: 3.5 m
- Tokachi, Hiroo: 4.0 m

“Analysis of tsunami wave form by Tanioka”

<http://www.sci.hokudai.ac.jp/isv/ev-news-flash/2011311-1.html#a-04>

“Tsunami height along Pacific coast of Ibaragi and Chiba Pref.”

http://outreach.eri.u-tokyo.ac.jp/eqvolc/201103_tohoku/#tsunamiheight

Recovery of the Train service in Tohoku region

As of 25 March, 2011

No train services is available along pacific coast



- Thick Bold line: Recovered lines

- Dotted line: recovers are expected before end of March or early April

Blue: JR New Bullet, Red: JR local lines, Green: Sendai Metro, Orange; non JR lines

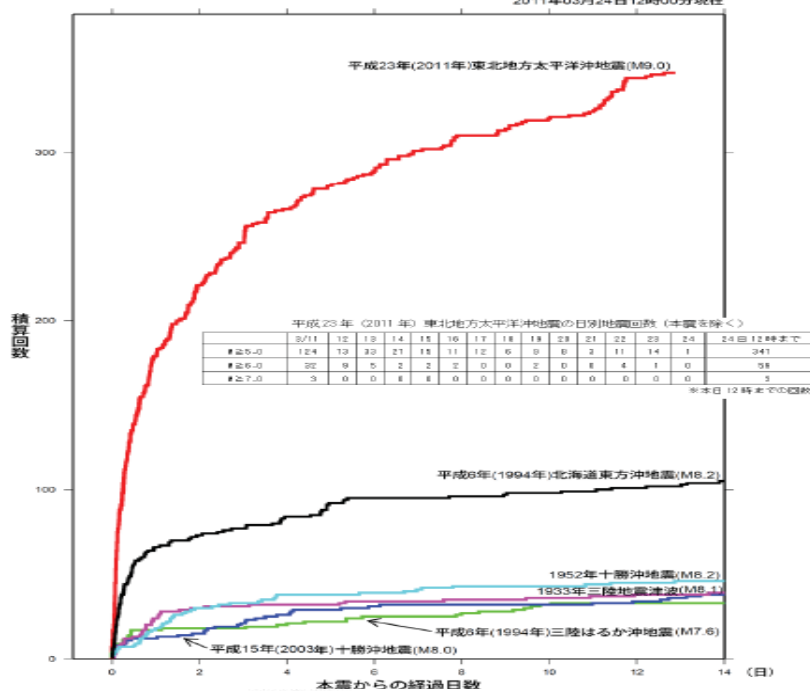
<http://www.tb.mlit.go.jp/tohoku/saigai110311.htm>

JMA Information

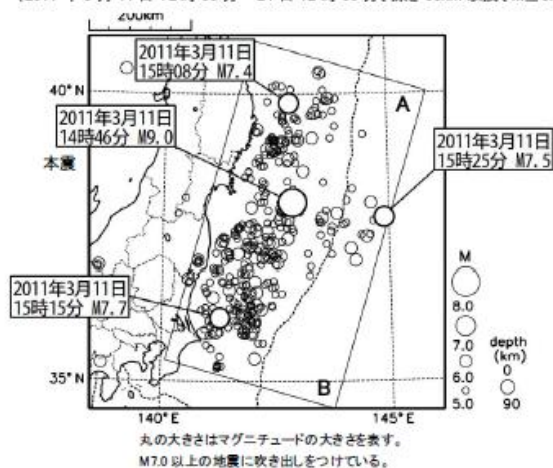
<http://www.jma.go.jp/jma/press/1103/24b/kaisetsu201103241700.pdf>

海域で発生した主な地震の余震回数比較（※本震を含む）
（マグニチュード5.0以上）

2011年03月24日12時00分現在



(2011年3月11日12時00分～24日12時00分、深さ90km以浅、 $M \geq 5.0$)



上図矩形内の時空間分布図(A-B 投影)

